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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/618,640

07/15/2003

Hideki Sugiura

240356US0

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03/12/2009

OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

NOTE, JANIS L

ART UNIT

PAPER NUMBER

1795

NOTIFICATION DATE

DELIVERY MODE

03/12/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary

Application No.

10/618,640

Applicant(s)

SUGIURA ET AL.

Examiner

Janis L. Dote

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period **will** apply and **will** expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply **will**, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-14 and 16-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3-14 and 16-18 is/are allowed.
- 6) ☒ Claim(s) 19 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

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1. The examiner acknowledges the cancellation of claim 22, and the amendments to claims 1, 12, 18, and 19, filed on Dec. 15, 2008. Claims 1, 3-14, and 16-20 are pending.

2. Claims 1, 3-14, and 16-18 are directed to an allowable product for the reasons discussed in paragraph 3 infra. Applicants' elected species, the external additive comprising oxide particles comprising the metal element Ti, set forth in the response filed on Aug. 22, 2005, and external additives comprising the non-elected oxide particles comprising the other metal elements recited in instant claim 6 have been found allowable for the reasons discussed in paragraph 3 infra.

Pursuant to the procedures set forth in MPEP § 821.04(B), claims 19 and 20, which are directed to the process of using an allowable product, previously withdrawn from consideration as a result of a restriction requirement, have been rejoined and fully examined for patentability under 37 CFR 1.104.

Because all claims previously withdrawn from consideration under 37 CFR 1.142 have been rejoined, **the restriction requirement as set forth in the Office action mailed on Jul. 22, 2005, is hereby withdrawn.** In view of the withdrawal of the restriction requirement as to the rejoined inventions, applicant(s) are advised that if any claim presented in a

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continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Once the restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

3. The rejections of claims 1 and 3-10 under 35 U.S.C. 102(b)/103(a) over US 2002/0044706 A1 (Konya) set forth in the office action mailed on Dec. 15, 2008, paragraphs 5 and 10 and of claims 11-14 and 16-18 under 35 U.S.C. 103(a) over Konya combined with the other cited references, set forth in the office action mailed on Oct. 3, 2008, paragraph 6-8 and 11-13, respectively, have been withdrawn in response to the amendments to claims 1, 12, and 18 filed on Dec. 15, 2008. Those amendments add the limitation that the external additive further comprises "hydrophobed inorganic fine particles having an average particle diameter of primary particles of 1 to 100 nm." As discussed in the office action mailed on Dec. 15, 2008, paragraph 17, Konya does not teach or suggest a toner comprising

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the spherical complex oxide fine particles in combination with another "hydrophobed inorganic fine particles having an average particle diameter of primary particles of 1 to 100 nm" as recited in the instant claims.

The rejection of claims 1, 4, 12, and 16 on the ground of nonstatutory obviousness-type double patenting over claims 1-6 of copending Application No. 11/983,690 (Application'690), set forth in the office action mailed on Dec. 15, 2008, paragraph 15, has been withdrawn in response to the amendments to claims 1 and 12 filed on Dec. 15, 2008, as described supra. The reference claims in Application'690 do not recite that the toner further comprises additional "hydrophobed inorganic fine particles having an average particle diameter of primary particles of 1 to 100 nm" as recited in the instant claims.

4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

The image-forming process broadly recited in instant claims 19 and 20 lacks antecedent basis in the specification.

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5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. European Patent 1,319,992 A1 (EP'992), which is listed on the form PTO-1449 filed on Dec. 8, 2003, is prior art to the subject matter recited in instant claims 19 and 20.

Applicants have not perfected their claim to foreign priority under 35 U.S.C. 119 to Japanese patent application No. 2002-205196 for the subject matter recited in instant claims 19 and 20. The verified English-language translation of the priority document, which was filed on Feb. 27, 2006, does not appear to provide an adequate written description of the subject matter recited in instant claims 19 and 20 as required under 35 U.S.C. 112, first paragraph. The translation does not describe the image-forming process broadly recited in instant claims 19 and 20. Accordingly, applicants have not perfected their claim to foreign priority for the subject matter recited in instant claims 19 and 20.

7. Claims 19 and 20 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over European Patent 1,319,992 A1 (EP'992), as evidenced by applicants' admissions in the instant specification at

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page 21, lines 2-24, and in Tables 1 and 2, examples 1-11 and comparative examples 3 and 4 (applicants' admission I).

EP'992 discloses a number of two-component developers that comprise a carrier and a toner comprising hydrophobic oxide particles. See examples 5 and 7.

In example 5 of EP'992, the developer comprises a toner that comprises: (1) toner particles comprising a polyol binder resin and a colorant; (2) hydrophobic oxide particles **5**; (3) hydrophobic silica particles having a primary particle diameter of 10 nm; and (4) titanium oxide particles having a primary particle diameter of 15 nm. See paragraphs 0257-0259, and example 5 in paragraph 0266 and in Table 2. The toner particles have a weight average particle size of 6.5 μm . Hydrophobic oxide particles **5** have a number average primary particle diameter of 50 nm. Paragraph 0094 and Table 2. The number average primary particle diameter of 50 nm meets the range of 50 to 170 nm recited in instant claim 19. The hydrophobic silica particles meet the hydrophobed inorganic particles having a primary particle diameter of 1 to 100 nm recited in instant claim 19. Hydrophobic oxide particles **5** are obtained by surface treating the oxide particles with the organosilicon coupling agent, hexamethyl disilazane.

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In example 7 of EP'992, the developer comprises a toner that comprises: (1) the same toner particles used in example 5; (2) hydrophobic oxide particles **7**; (3) hydrophobic silica particles having a primary particle diameter of 10 nm; and (4) titanium oxide particles having a primary particle diameter of 15 nm. See example 7 in paragraph 0266 and in Table 2. Hydrophobic oxide particles **7** have a number average primary particle diameter of 149 nm, which meets the range of 50 to 170 nm recited in instant claim 19. The hydrophobic silica particles meet the hydrophobic silica particles having a primary particle diameter of 1 to 100 nm recited in instant claim 19. Hydrophobic oxide particles **7** are obtained by surface treating the oxide particles with a silicone oil. Hydrophobic oxide particles **7** comprise the metal element Ti, which is uniformly dispersed at the surface and inside parts of the oxide particles. Paragraph 0056, item (2), and Table 2.

EP'992 further discloses that its developers may be used in an image forming method using the image forming apparatus of Fig. 1. The image forming method comprises the steps of: (1) charging the photoreceptor **10**, i.e., a latent electrostatic image-bearing member, with the charging roller **20**; (2) image-wise exposing with light the charged photoreceptor **10** with an optical device to form an electrostatic latent image;

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(3) developing the latent image with the developing unit **40**, which comprises the developer to form a toner image; and
(4) transferring the toner image from the photoreceptor **10** to an intermediate transfer body **50** that transfers the toner image to a receiving member. Fig. 1, and paragraph 0177.

EP'992 does not disclose that hydrophobic oxide particles **5** and **7** have a circularity of SF1 and SF2 as recited in the instant claims. Nor does EP'992 disclose that the oxide particles have a standard deviation σ of a particle size distribution as recited in the instant claims.

However, as discussed above, the developers disclosed by EP'992 meet the compositional limitations of the developers recited in the instant claims. EP'992 further discloses that hydrophobic oxide particles **5** and **7** have a substantially spherical shape and have an average roundness of 0.97 or 0.995, respectively. See paragraph 0056, item (1) and Table 2. The average roundness is the average value of the roundness of the oxide particles, which is defined as the "circumference length corresponding circle/circumference length of projected image of the measured particle." Paragraphs 0095-0096. The instant specification discloses that the toners comprising oxide particles having the SF1 and SF2 values and the particle size distribution recited in the instant claims provide images with

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stable quality even after storage at low temperatures and low humidity. The toners have excellent image transfer properties, development properties, and image fixing properties. The toners exhibit satisfactory electrostatic stability, and provide images with no toner scattering. Specification, page 21, lines 2-24, and Table 1. Table 1 shows that when the oxide particles have SF1 and SF2 values that are not within the ranges recited in the instant claims, toner scattering and transfer dust are observed. The images formed have hollow defects, toner deposition on the background of the images, and poor image density. The toner does not exhibit sufficient transferability, and does not exhibit electrostatic stability in environments of high temperature and high humidity and of low temperature and low humidity. Comparative example 4 in Tables 1 and 2, where the SF1 is 131 and the SF2 is 127. Table 1 also shows that when the oxide particles do not have a particle size distribution as recited in the instant claims, toner scattering is observed. The oxide particles are fully embedded in the surface of the toner particles. The images formed have hollow defects and poor thin line reproducibility. Comparative example 3 in Tables 1 and 2, where σ is about 0.09R. According to EP'992, the toners in examples 5 and 7 comprising hydrophobic oxide particles **5** or **7** have excellent image transfer properties, development

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properties, and image fixing properties. Paragraphs 0043-0054. The toners have sufficient transferability, i.e., fluidity, and exhibit electrostatic stability in environments of high temperature and high humidity and of low temperature and low humidity. The toners provide toner images with good image density, thin line reproducibility, and with no or very little hollow defects, background toner deposition, and toner scattering. The oxide particles are not completely embedded in the surface of the toner particles. EP'992, Table 1, examples 5 and 7. These properties appear to be the properties sought by using the toners comprising the oxide fine particles having the SF-1, SF-2, and standard deviation σ of a particle size distribution recited in instant claim 19. Accordingly, because the toners comprising hydrophobic oxide particles **5** or **7** in examples 5 and 7 of EP'992 meet the compositional limitations recited in the instant claims, and because the toners appear to have to the properties sought by using the toners comprising the fine oxide particles recited in instant claim 19, it reasonable to presume that the EP'992 hydrophobic oxide particles have a SF1 value, a SF2 value, and a particle size distribution as recited in the instant claims. The burden is on applicants to prove otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

As discussed supra, in examples 5 and 7 of EP'992, EP'992

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states that the toner particles have a weight average particle size of 6.5 μm , not a volume average particle size as recited in instant claim 19. However, EP'992 teaches that the toner particles have a volume average particle size of 2 to 10 μm . Page 8, lines 1-3, and reference claim 6. The particle size value of 6.5 μm is within the numerical range of the volume average particle size of 2 to 7 μm recited in instant claim 19. Thus, based on the reasonable presumption that the toner particles have uniform density, it is reasonable to conclude that the toner particles in the examples of EP'992 have a volume average particle size of 6.5 μm . Accordingly, the burden is on applicants to prove otherwise. Fitzgerald, supra.

8. Claims 1, 3-14, and 16-18 are allowable over the prior art of record for the reasons discussed in paragraph 3 above.

9. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS

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of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (571) 272-1382. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (571) 272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry regarding papers not received regarding this communication or earlier communications should be directed to Supervisory Application Examiner Ms. Sandra Sewell, whose telephone number is (571) 272-1047.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Janis L. Dote/
Primary Examiner, Art Unit 1795

JLD
Mar. 9, 2009